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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,795	05/23/2001	Thomas L. Barkley	P-1659-1	8926
20978	7590	03/02/2004	EXAMINER	
LIBERT & ASSOCIATES 3 MILL POND LANE P O BOX 538 SIMSBURY, CT 06070-0538			FELTON, AILEEN BAKER	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/863,795	<b>Applicant(s)</b> BARKLEY ET AL. <span style="float: right;">C16</span>	
	<b>Examiner</b> Aileen B Felton	<b>Art Unit</b> 3641	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-16, 20-23 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-16, 20-23 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/24/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 contains language that suggests that the diluent can be explosively inert or a second explosive but the last line of the claim indicates that the diluent comprises inert microballoons. It is unclear what Applicant is intending by this claim, is the diluent just microballoons or just a second explosive or mixtures of the two?

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 8, 10-16, 21-23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al(5,880,399).

Jones et al teach a detonating cord that is a high explosive enclosed in a sheath. The explosive can be TNT, RDX, HMX, PETN etc. (Table 1). The detonating cord can include various diluents from 1-25 % and can also include some low explosive ingredients from 1-25 % (col. 6, lines 7-25). The specific claimed diluent is not disclosed.

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Hales et al teach the use of microballoons that are dispersed throughout a cast explosive composition that comprises PETN, TNT, RDX (col. 1, lines 10-20). The impact sensitivity is reduced when microballoons are added. Hales teaches that this result is surprising since normally the addition of microballoons to an explosive increases the detonation and impact sensitivity of the charge, particularly in charges having small critical diameters (col. 2, lines 10-45). The microspheres can be plastic and comprise co-polymers and can be coated with other polymers or co-polymers of organic or inorganic monomers (col. 3, lines 24-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the microballoons as taught by Hales in place of the inert diluents present in Jones, since Hales teaches that the microballoons make the explosive less sensitive.

5. Claims 4, 6, 7, 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones(3,789,759) in view of Hales et al(5,880,399) as applied to claims 3, 5, 8, 10-16, 21-23, 26, and 27 above, and further in view of Takeuchi et al(4,547,234).

Takeuchi et al teach that it is known to use phenolic resin microspheres of average size 30 micron (col. 2, lines 9-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of the size of the microspheres even though they are used in an emulsion explosive since one would be motivated to use other microspheres that are known and available in the explosive art.

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6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al (5,880,399) as applied to claims 3, 5, 8, 10-16, 21-23, 26, and 27 above, and further in view of Griffith(3,367,266).

Griffith teaches a detonating cord that comprises a mixtures of a high explosive and a less sensitive explosive such as ammonium nitrate and TNT(col. 5, lines 39-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching that detonating cords can be made of a high explosive and less sensitive explosive with the detonating cords disclosed by Jones since Jones suggests that other explosives can be used with the high explosive.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al(5,880,399) as applied to claims 3, 5, 8, 10-16, 21-23, 26, and 27 above.

Jones also discloses ammonium nitrate as a secondary explosive in Table 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use of mixture of secondary explosives (i.e. PETN and AN) that are disclosed by Jones. It is prima facie obvious to combine two compositions, each taught for the same purpose to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, i69 USPQ 423.

8. Claims 3, 5, 8, 10-16, 21-23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll(3,683,811).

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Jones et al teach a detonating cord that is a high explosive enclosed in a sheath. The explosive can be TNT, RDX, HMX, PETN etc. (Table 1). The detonating cord can include various diluents from 1-25 % and can also include some low explosive ingredients from 1-25 % (col. 6, lines 7-25). The specific claimed diluent is not disclosed.

Driscoll teaches the use of 1-50 % of an inert diluent such as phenolic microballoons in an igniter composition which decreases the burning rate of the ignition composition.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the microballoons as taught by Driscoll in place of the inert diluents present in Jones, since Driscoll teaches that the microballoons make the explosive less sensitive.

9. Claims 4, 6, 7, 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll(3,683,811) as applied to claims 3, 5, 8, 10-16, 21-23, 26, and 27 above, and further in view of Takeuchi et al(4,547,234).

Takeuchi et al teach that it is known to use phenolic resin microspheres of average size 30 micron (col. 2, lines 9-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of the size of the microspheres even though they are used in an emulsion explosive since one would be motivated to use other microspheres that are known and available in the explosive art.

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10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll (3,683,811) as applied to claims 3, 5, 8, 10-16, 21-23, 26, and 27 above, and further in view of Griffith (3,367,266).

Griffith teaches a detonating cord that comprises a mixture of a high explosive and a less sensitive explosive such as ammonium nitrate and TNT (col. 5, lines 39-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching that detonating cords can be made of a high explosive and less sensitive explosive with the detonating cords disclosed by Jones since Jones suggests that other explosives can be used with the high explosive.

### ***Conclusion***

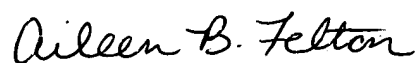
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687. The fax number for submissions before a final action is (703) 872-9326, for after final submissions is (703) 872-9327, and customer service is (703) 872-9325.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

A handwritten signature in black ink that reads "Aileen B. Felton". The script is cursive and fluid.

Aileen B. Felton